

CLAIMS

1. A discharge electrode clad material comprising:
a base layer composed of pure Ni or a Ni-based alloy mainly comprising Ni; and
a surface layer bonded to the base layer and composed of pure Nb or a Nb-based alloy mainly comprising Nb, the surface layer having a thickness of not smaller than 20 μ m and not greater than 100 μ m.
2. A discharge electrode clad material comprising:
a base layer composed of a stainless steel; and
a surface layer bonded to the base layer and composed of pure Nb or a Nb-based alloy mainly comprising Nb, the surface layer having a thickness of not smaller than 20 μ m and not greater than 100 μ m.
3. A discharge electrode clad material comprising:
a base layer composed of pure Ni or a Ni-based alloy mainly comprising Ni;
an intermediate layer bonded to the base layer and composed of a ferrous material; and
a surface layer bonded to the intermediate layer and composed of pure Nb or a Nb-based alloy mainly comprising Nb, the surface layer having a thickness of not smaller than 20 μ m and not greater than 100 μ m.
4. A discharge electrode clad material as set forth in claim 3, wherein the ferrous material is a stainless

steel.

5. A discharge electrode clad material as set forth in claim 1, wherein the Ni-based alloy of the base layer consists of not smaller than 1.0 mass% and not greater than 12.0 mass% of one or both of Nb and Ta, and the balance of Ni and inevitable impurities.

6. A discharge electrode clad material as set forth in claim 2, wherein the Ni-based alloy of the base layer consists of not smaller than 1.0 mass% and not greater than 12.0 mass% of one or both of Nb and Ta, and the balance of Ni and inevitable impurities.

7. A discharge electrode clad material as set forth in claim 3, wherein the Ni-based alloy of the base layer consists of not smaller than 1.0 mass% and not greater than 12.0 mass% of one or both of Nb and Ta, and the balance of Ni and inevitable impurities.

8. A discharge electrode clad material as set forth in claim 4, wherein the Ni-based alloy of the base layer consists of not smaller than 1.0 mass% and not greater than 12.0 mass% of one or both of Nb and Ta, and the balance of Ni and inevitable impurities.

9. A discharge electrode clad material as set forth in claim 1, 2, 5 or 6, wherein the base layer has a strip-like shape, and the surface layer comprises at least one elongated surface layer bonded onto a portion of the base layer between

widthwise opposite edge portions of the base layer as extending longitudinally of the base layer.

10. A discharge electrode clad material as set forth in claim 3, 4, 7 or 8, wherein the intermediate layer has a strip-like shape, and the base layer and the surface layer respectively comprise at least one elongated base layer and at least one elongated surface layer bonded onto portions of the intermediate layer between widthwise opposite edge portions of the intermediate layer as extending longitudinally of the intermediate layer.

11. A discharge electrode clad material as set forth in claim 1, 2, 5 or 6, wherein the surface layer has a thickness which is not greater than 70% of a total thickness of the base layer and the surface layer.

12. A discharge electrode clad material as set forth in claim 3, 4, 7 or 8, wherein the surface layer has a thickness which is not greater than 70% of a total thickness of the base layer, the intermediate layer and the surface layer.

13. A discharge electrode produced unitarily from a clad material by press forming as recited in any of claims 1 to 8, the discharge electrode comprising:

a tubular portion having an open end; and

an end plate portion formed integrally with the tubular portion to close the other end of the tubular portion,

wherein inner surfaces of the tubular portion and the end plate portion are defined by a surface layer of the clad material.

14. A discharge electrode produced unitarily from a clad material by press forming as recited in claim 11, the discharge electrode comprising:

a tubular portion having an open end; and

an end plate portion formed integrally with the tubular portion to close the other end of the tubular portion,

wherein inner surfaces of the tubular portion and the end plate portion are defined by a surface layer of the clad material.

15. A discharge electrode produced unitarily from a clad material by press forming as recited in claim 12, the discharge electrode comprising:

a tubular portion having an open end; and

an end plate portion formed integrally with the tubular portion to close the other end of the tubular portion,

wherein inner surfaces of the tubular portion and the end plate portion are defined by a surface layer of the clad material.